

Notice of Allowability

Application No.

09/937,520

Examiner

Rip A. Lee

Applicant(s)

MITANI ET AL.

Art Unit

1713

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to April 20, 2004.
2. ☒ The allowed claim(s) is/are 1, 27, 29, 30, 32 and 45-56.
3. ☐ The drawings filed on _____ are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

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DETAILED ACTION

This office action follows a response filed on April 20, 2004. Applicants have amended claims 1, 29, 30, and 32.

EXAMINER'S AMENDMENT

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Kecia Reynolds on July 8, 2004.

Claim 1, line 21	insert "the group consisting of" after the word "from"
Claim 29, line 4	insert "the group consisting of" before the word "olefins"
Claim 30, line 4	insert "the group consisting of" before the word "olefins"
Claim 32, line 4	insert "the group consisting of" before the word "olefins"
Cancel claim 35.	

Allowable Subject Matter

The following is an examiner's statement of reasons for allowance: Claims 1, 27, 29, 30, 32 and 45-56 are allowed over the closest references, EP 874,005 to Fujita *et al.*, EP 1,008,595 to Matsui *et al.*, and JP 2000-119316 to Tsuru *et al.*

The present invention is drawn to an olefin polymer having a molecular weight distribution M_w/M_n , of not more than 1.5 selected from the group consisting of: (i) polypropylene having $M_n \geq 500$, $mp \geq 70^\circ C$, and a racemic diad ≥ 0.85 , (ii) polybutylene having $M_n \geq 500$, $mp \geq 70^\circ C$, and a racemic diad ≥ 0.85 , and (iii) a copolymer of propylene and at least one selected from the group consisting of C_4 - C_{20} olefin, dienes, and cycloolefins wherein the copolymer has $M_n \geq 500$.

Other aspects of the invention relates to a processes for preparing polymer comprising polymerizing propylene or butylene or copolymerizing propylene and at least one selected from the group consisting of C_4 - C_{20} olefin, dienes, and cycloolefins in the presence of catalysts containing transition metal complexes represented by general formulas (II-a), (II-b), and (III) (see claims for details).

The general teachings of Fujita *et al.*, Matsui *et al.*, and Tsuru *et al.* describe catalysts for the preparation of polyolefins. The references disclose several embodiments, among many others, which satisfy the structural features of the present claims. Thus, it may be argued that the skilled artisan would find it obvious to select a particular catalyst from the vast listing of species presented within the patents in order to arrive at the catalyst of the present claims. However, it is noted that while the references describe polymerization of olefins generically, there is no specific direction for

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polymerizing propylene or butylene or copolymerizing propylene and at least one selected from the group consisting of C₄-C₂₀ olefin, dienes, and cycloolefins. In considering the totality of information gleaned from the prior art, and comparing that with the gist of the present invention, it is concluded that one of ordinary skill in the art would not have found it immediately obvious to arrive at the process claims of the present invention. It follows that the polymers prepared from the claimed process (as per claim 1) would not be obvious either.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

The accompanying PTO-892 lists references not relied upon, but considered pertinent to the Applicant's disclosure. The following references have been cited to show the state of the art with respect to syndiotactic polypropylenes, polybutenes, propylene-butene copolymers.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rip A. Lee whose telephone number is (571)272-1104. The examiner can be reached on Monday through Friday from 9:00 AM - 5:00 PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu, can be reached at (571)272-1114. The fax phone number for the organization where this application or proceeding is assigned is (703)872-9306.

ral

July 8, 2004



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